

Release notes for ENDF/B Development n-092_U_241
evaluation

ENDF
B-VII.dev

April 26, 2017

• psyche Errors:

1. A probability distribution is negative. This is bad.
FILE 4 / SECTION 53 / DISTRIBUTION IS NEGATIVE / FROM -9.9975E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-07 (0): Neg. prob.

```
FILE 4
SECTION 53
DISTRIBUTION IS NEGATIVE
FROM -9.9975E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-07
```

2. A probability distribution is negative. This is bad.
FILE 4 / SECTION 53 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 53
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

3. A probability distribution is negative. This is bad.
FILE 4 / SECTION 54 / DISTRIBUTION IS NEGATIVE / FROM -9.9977E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07 (0): Neg. prob.

```
FILE 4
SECTION 54
DISTRIBUTION IS NEGATIVE
FROM -9.9977E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07
```

4. A probability distribution is negative. This is bad.
FILE 4 / SECTION 54 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 54
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

5. A probability distribution is negative. This is bad.
FILE 4 / SECTION 55 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 55
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

6. A probability distribution is negative. This is bad.
FILE 4 / SECTION 56 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 56
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

7. A probability distribution is negative. This is bad.
FILE 4 / SECTION 57 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 57
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

8. A probability distribution is negative. This is bad.
FILE 4 / SECTION 58 / DISTRIBUTION IS NEGATIVE / FROM -9.9997E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE 4
SECTION 58
DISTRIBUTION IS NEGATIVE
FROM -9.9997E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
```

9. A probability distribution is negative. This is bad.
FILE 4 / SECTION 58 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 58
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

10. A probability distribution is negative. This is bad.
FILE 4 / SECTION 59 / DISTRIBUTION IS NEGATIVE / FROM -9.9953E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.2187E-06 (0): Neg. prob.

```
FILE 4
SECTION 59
DISTRIBUTION IS NEGATIVE
FROM -9.9953E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.2187E-06
```

11. A probability distribution is negative. This is bad.
FILE 4 / SECTION 59 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.0206E-05 (0): Neg. prob.

```
FILE 4
SECTION 59
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.0206E-05
```

12. A probability distribution is negative. This is bad.
FILE 4 / SECTION 59 / DISTRIBUTION IS NEGATIVE / FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05 (0): Neg. prob.

```
FILE 4
SECTION 59
DISTRIBUTION IS NEGATIVE
FROM -9.9884E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6987E-05
```

13. A probability distribution is negative. This is bad.
FILE 4 / SECTION 61 / DISTRIBUTION IS NEGATIVE / FROM -9.9960E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.5034E-06 (0): Neg. prob.

```

FILE 4
SECTION 61
DISTRIBUTION IS NEGATIVE
FROM -9.9960E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.5034E-06

```
14. A probability distribution is negative. This is bad.
FILE 4 / SECTION 61 / DISTRIBUTION IS NEGATIVE / FROM -9.9887E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9073E-05 (0): Neg. prob.

```

FILE 4
SECTION 61
DISTRIBUTION IS NEGATIVE
FROM -9.9887E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9073E-05

```
15. A probability distribution is negative. This is bad.
FILE 4 / SECTION 61 / DISTRIBUTION IS NEGATIVE / FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9372E-05 (0): Neg. prob.

```

FILE 4
SECTION 61
DISTRIBUTION IS NEGATIVE
FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9372E-05

```
16. A probability distribution is negative. This is bad.
FILE 4 / SECTION 62 / DISTRIBUTION IS NEGATIVE / FROM -9.9967E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6093E-06 (0): Neg. prob.

```

FILE 4
SECTION 62
DISTRIBUTION IS NEGATIVE
FROM -9.9967E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6093E-06

```
17. A probability distribution is negative. This is bad.
FILE 4 / SECTION 62 / DISTRIBUTION IS NEGATIVE / FROM -9.9893E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7166E-05 (0): Neg. prob.

```

FILE 4
SECTION 62
DISTRIBUTION IS NEGATIVE
FROM -9.9893E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7166E-05

```
18. A probability distribution is negative. This is bad.
FILE 4 / SECTION 62 / DISTRIBUTION IS NEGATIVE / FROM -9.9879E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.8716E-05 (0): Neg. prob.

```

FILE 4
SECTION 62
DISTRIBUTION IS NEGATIVE
FROM -9.9879E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.8716E-05

```

19. A probability distribution is negative. This is bad.
FILE 4 / SECTION 63 / DISTRIBUTION IS NEGATIVE / FROM -9.9972E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.0729E-06 (0): Neg. prob.

FILE 4
SECTION 63
DISTRIBUTION IS NEGATIVE
FROM -9.9972E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.0729E-06
20. A probability distribution is negative. This is bad.
FILE 4 / SECTION 63 / DISTRIBUTION IS NEGATIVE / FROM -9.9897E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.5974E-05 (0): Neg. prob.

FILE 4
SECTION 63
DISTRIBUTION IS NEGATIVE
FROM -9.9897E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.5974E-05
21. A probability distribution is negative. This is bad.
FILE 4 / SECTION 63 / DISTRIBUTION IS NEGATIVE / FROM -9.9878E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9252E-05 (0): Neg. prob.

FILE 4
SECTION 63
DISTRIBUTION IS NEGATIVE
FROM -9.9878E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9252E-05
22. A probability distribution is negative. This is bad.
FILE 4 / SECTION 64 / DISTRIBUTION IS NEGATIVE / FROM -9.9976E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 8.3447E-07 (0): Neg. prob.

FILE 4
SECTION 64
DISTRIBUTION IS NEGATIVE
FROM -9.9976E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 8.3447E-07
23. A probability distribution is negative. This is bad.
FILE 4 / SECTION 64 / DISTRIBUTION IS NEGATIVE / FROM -9.9900E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.4961E-05 (0): Neg. prob.

FILE 4
SECTION 64
DISTRIBUTION IS NEGATIVE
FROM -9.9900E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.4961E-05
24. A probability distribution is negative. This is bad.
FILE 4 / SECTION 64 / DISTRIBUTION IS NEGATIVE / FROM -9.9879E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9252E-05 (0): Neg. prob.

FILE 4
SECTION 64
DISTRIBUTION IS NEGATIVE
FROM -9.9879E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9252E-05

25. A probability distribution is negative. This is bad.
FILE 4 / SECTION 65 / DISTRIBUTION IS NEGATIVE / FROM -9.9980E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.3644E-07 (0): Neg. prob.
- FILE 4
SECTION 65
DISTRIBUTION IS NEGATIVE
FROM -9.9980E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.3644E-07
26. A probability distribution is negative. This is bad.
FILE 4 / SECTION 65 / DISTRIBUTION IS NEGATIVE / FROM -9.9902E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.4305E-05 (0): Neg. prob.
- FILE 4
SECTION 65
DISTRIBUTION IS NEGATIVE
FROM -9.9902E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.4305E-05
27. A probability distribution is negative. This is bad.
FILE 4 / SECTION 65 / DISTRIBUTION IS NEGATIVE / FROM -9.9878E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9610E-05 (0): Neg. prob.
- FILE 4
SECTION 65
DISTRIBUTION IS NEGATIVE
FROM -9.9878E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9610E-05
28. A probability distribution is negative. This is bad.
FILE 4 / SECTION 66 / DISTRIBUTION IS NEGATIVE / FROM -9.9987E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-07 (0): Neg. prob.
- FILE 4
SECTION 66
DISTRIBUTION IS NEGATIVE
FROM -9.9987E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-07
29. A probability distribution is negative. This is bad.
FILE 4 / SECTION 66 / DISTRIBUTION IS NEGATIVE / FROM -9.9907E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.2994E-05 (0): Neg. prob.
- FILE 4
SECTION 66
DISTRIBUTION IS NEGATIVE
FROM -9.9907E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.2994E-05
30. A probability distribution is negative. This is bad.
FILE 4 / SECTION 66 / DISTRIBUTION IS NEGATIVE / FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9908E-05 (0): Neg. prob.
- FILE 4
SECTION 66
DISTRIBUTION IS NEGATIVE
FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9908E-05

31. A probability distribution is negative. This is bad.
FILE 4 / SECTION 67 / DISTRIBUTION IS NEGATIVE / FROM -9.9993E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07 (0): Neg. prob.

```
FILE 4
SECTION 67
DISTRIBUTION IS NEGATIVE
FROM -9.9993E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07
```

32. A probability distribution is negative. This is bad.
FILE 4 / SECTION 67 / DISTRIBUTION IS NEGATIVE / FROM -9.9910E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1981E-05 (0): Neg. prob.

```
FILE 4
SECTION 67
DISTRIBUTION IS NEGATIVE
FROM -9.9910E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1981E-05
```

33. A probability distribution is negative. This is bad.
FILE 4 / SECTION 67 / DISTRIBUTION IS NEGATIVE / FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.0087E-05 (0): Neg. prob.

```
FILE 4
SECTION 67
DISTRIBUTION IS NEGATIVE
FROM -9.9877E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.0087E-05
```

- recent Warnings:

1. Competative widths aren't all zero like they're supposed to be
0: LRX=0

```
Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
=====
Retrieval Criteria----- MAT
File 2 Minimum Cross Section- 1.0000E-10 (Standard Option)
Reactions with No Background- Output (Resonance Contribution)
... [209 more lines]
```

- fudge-4.0 Warnings:

1. Potential scattering hasn't converted, you need more L's!
resonances / resolved (Error # 1): potentialScatteringNotConverged

WARNING: Potential scattering hasn't converged by L=0 at E=102.5 eV, xs[0]/xs[0]=100.0% > 0.1%

2. Cross section does not match sum of linked reaction cross sections
crossSectionSum label 0: total (Error # 0): CS Sum.

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 93.89%

- fudge-4.0 Errors:

1. The spin statistical weights are off, indicating missing channels
resonances / resolved / MultiLevel_BreitWigner (Error # 0): badSpinStatisticalWeights

WARNING: The spin statical weights for L=0 sums to 0.75, but should sum to 1.0. You have too few channels for r
 WARNING: The spin statical weights for L=0 sums to 0.75, but should sum to 1.0. You have too few channels for r

2. Found a negative probability
reaction label 0: n + U241 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 2.2e7 eV, worst case: -0.00102116908238
 WARNING: Negative probabilities encountered. Incident energy: 2.4e7 eV, worst case: -0.0102538525765
 WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.0238088879247
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.0454553717274
 ... plus 1 more instances of this message

3. Found a negative probability
reaction label 1: n + U241_e1 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.00232175734171

4. Found a negative probability
reaction label 3: n + U241_e3 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.6e7 eV, worst case: -0.001996
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675

5. Found a negative probability
reaction label 4: n + U241_e4 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 1.6e7 eV, worst case: -0.00178725
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675

6. Found a negative probability
reaction label 5: n + U241_e5 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675

7. Found a negative probability
reaction label 6: n + U241_e6 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675

8. Found a negative probability
reaction label 7: n + U241_e7 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675

9. Found a negative probability
reaction label 8: n + U241_e8 / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.

- WARNING: Negative probabilities encountered. Incident energy: 1.6e7 eV, worst case: -0.0002015
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675
10. Found a negative probability
reaction label 9: $n + U241.e9$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.014378905
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.0354191575
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0299153675
11. Found a negative probability
reaction label 10: $n + U241.e10$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0190696121094
12. Found a negative probability
reaction label 11: $n + U241.e11$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.0122411345
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.0344512015
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0320938455
13. Found a negative probability
reaction label 12: $n + U241.e12$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.010094221
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.03261195
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.031771379
14. Found a negative probability
reaction label 13: $n + U241.e13$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.0083420925
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.03142334
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.032271436
15. Found a negative probability
reaction label 14: $n + U241.e14$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.007088408
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.0304786695
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.032319025
16. Found a negative probability
reaction label 15: $n + U241.e15$ / Product: n / Distribution: / angularTwoBody - XYs2d:
(Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.0060279965
 WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.029803477
 WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0326812805

17. Found a negative probability
reaction label 16: $n + U241.e16$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.003736594
WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.0282414245
WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.033106588

18. Found a negative probability
reaction label 17: $n + U241.e17$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 2.6e7 eV, worst case: -0.0019773955
WARNING: Negative probabilities encountered. Incident energy: 2.8e7 eV, worst case: -0.02702282805
WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0333330345

19. Found a negative probability
reaction label 19: $n + U241.e19$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0156766365552

20. Found a negative probability
reaction label 20: $n + U241.e20$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0132587147807

21. Found a negative probability
reaction label 21: $n + U241.e21$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0115435049671

22. Found a negative probability
reaction label 22: $n + U241.e22$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0100239623806

23. Found a negative probability
reaction label 23: $n + U241.e23$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0086386612273

24. Found a negative probability
reaction label 24: $n + U241.e24$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.00777438004376

25. Found a negative probability
reaction label 25: $n + U241.e25$ / Product: n / Distribution: / angularTwoBody -
XYs2d: (Error # 0): Negative prob.

- WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.0068567313146
26. Found a negative probability
reaction label 26: n + U241.e26 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.00586970019895
27. Found a negative probability
reaction label 27: n + U241.e27 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.
- WARNING: Negative probabilities encountered. Incident energy: 3.e7 eV, worst case: -0.00515914617495
28. Calculated and tabulated Q values disagree.
reaction label 29: n[multiplicity:'2'] + U240 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -4228044.139862061 eV vs -4.5841e6 eV!
29. Energy range of data set does not match cross section range
reaction label 29: n[multiplicity:'2'] + U240 / Product: U240 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (4603263.0 -> 30000000.0) vs (4603281.0 -> 30000000.0)
30. Calculated and tabulated Q values disagree.
reaction label 30: n[multiplicity:'3'] + U239 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -10805001.6907959 eV vs -1.05149e7 eV!
31. Energy range of data set does not match cross section range
reaction label 30: n[multiplicity:'3'] + U239 / Product: U239 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (10558910.0 -> 30000000.0) vs (10558900.0 -> 30000000.0)
32. Calculated and tabulated Q values disagree.
reaction label 31: n[multiplicity:'4'] + U238 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -15502828.51287842 eV vs -1.53212e7 eV!
33. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'4'] + U238 / Product: U238 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (15385320.0 -> 30000000.0) vs (15385310.0 -> 30000000.0)
34. Fission energy release seems unphysical.
reaction label 32: n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] / fissionEnergyReleased: / delayedNeutronKE: (Error # 0): Fiss. en. rel. (h)
- WARNING: Fission energy release seems unphysical. Worst case: 19250.0

35. Calculated and tabulated Q values disagree.
reaction label 33: U242 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 5642800.897674561 eV vs 5.6834e6 eV!

• njoy2012 Warnings:

1. There is a problem with the fission energy release.
heatr...prompt kerma (0): HEATR/nheat (3)

```
---message from nheat---changed q from 1.895776E+08 to 1.810159E+08
for mt 18
```

• njoy2012 Errors:

1. An angular distribution is negative
acer...monte carlo neutron and photon data (0): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
55 for mt= 2 e= 2.200E+07
```

2. An angular distribution is negative
acer...monte carlo neutron and photon data (1): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
271 for mt= 2 e= 2.400E+07
```

3. An angular distribution is negative
acer...monte carlo neutron and photon data (2): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
376 for mt= 2 e= 2.600E+07
```

4. An angular distribution is negative
acer...monte carlo neutron and photon data (3): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
572 for mt= 2 e= 2.800E+07
```

5. An angular distribution is negative
acer...monte carlo neutron and photon data (4): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
725 for mt= 2 e= 3.000E+07
```

6. An angular distribution is negative
acer...monte carlo neutron and photon data (5): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
12 for mt= 51 e= 3.000E+07
```

7. An angular distribution is negative
acer...monte carlo neutron and photon data (6): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
1 for mt= 53 e= 1.600E+07
```

8. An angular distribution is negative
acer...monte carlo neutron and photon data (7): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 53 e= 3.000E+07

```
9. An angular distribution is negative
acer...monte carlo neutron and photon data (8): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      1 for mt= 54 e= 1.600E+07

```
10. An angular distribution is negative
acer...monte carlo neutron and photon data (9): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 54 e= 3.000E+07

```
11. An angular distribution is negative
acer...monte carlo neutron and photon data (10): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 55 e= 3.000E+07

```
12. An angular distribution is negative
acer...monte carlo neutron and photon data (11): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 56 e= 3.000E+07

```
13. An angular distribution is negative
acer...monte carlo neutron and photon data (12): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 57 e= 3.000E+07

```
14. An angular distribution is negative
acer...monte carlo neutron and photon data (13): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      1 for mt= 58 e= 1.600E+07

```
15. An angular distribution is negative
acer...monte carlo neutron and photon data (14): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      2 for mt= 58 e= 3.000E+07

```
16. An angular distribution is negative
acer...monte carlo neutron and photon data (15): Neg. $P(Ej\mu)$ (b)

```

---message from ptleg2---negative probs found
      1 for mt= 59 e= 2.600E+07

```
17. An angular distribution is negative
acer...monte carlo neutron and photon data (16): Neg. $P(Ej\mu)$ (b)

- message from ptleg2---negative probs found
2 for mt= 59 e= 2.800E+07
18. An angular distribution is negative
acer...monte carlo neutron and photon data (17): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 59 e= 3.000E+07
19. An angular distribution is negative
acer...monte carlo neutron and photon data (18): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
30 for mt= 60 e= 3.000E+07
20. An angular distribution is negative
acer...monte carlo neutron and photon data (19): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 61 e= 2.600E+07
21. An angular distribution is negative
acer...monte carlo neutron and photon data (20): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 61 e= 2.800E+07
22. An angular distribution is negative
acer...monte carlo neutron and photon data (21): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 61 e= 3.000E+07
23. An angular distribution is negative
acer...monte carlo neutron and photon data (22): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 62 e= 2.600E+07
24. An angular distribution is negative
acer...monte carlo neutron and photon data (23): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 62 e= 2.800E+07
25. An angular distribution is negative
acer...monte carlo neutron and photon data (24): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 62 e= 3.000E+07
26. An angular distribution is negative
acer...monte carlo neutron and photon data (25): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 63 e= 2.600E+07

27. An angular distribution is negative
acer...monte carlo neutron and photon data (26): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 63 e= 2.800E+07
28. An angular distribution is negative
acer...monte carlo neutron and photon data (27): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 63 e= 3.000E+07
29. An angular distribution is negative
acer...monte carlo neutron and photon data (28): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 64 e= 2.600E+07
30. An angular distribution is negative
acer...monte carlo neutron and photon data (29): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 64 e= 2.800E+07
31. An angular distribution is negative
acer...monte carlo neutron and photon data (30): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 64 e= 3.000E+07
32. An angular distribution is negative
acer...monte carlo neutron and photon data (31): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 65 e= 2.600E+07
33. An angular distribution is negative
acer...monte carlo neutron and photon data (32): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 65 e= 2.800E+07
34. An angular distribution is negative
acer...monte carlo neutron and photon data (33): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 65 e= 3.000E+07
35. An angular distribution is negative
acer...monte carlo neutron and photon data (34): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 66 e= 2.600E+07
36. An angular distribution is negative
acer...monte carlo neutron and photon data (35): Neg. $P(Ej\mu)$ (b)

- message from ptleg2---negative probs found
1 for mt= 66 e= 2.800E+07
37. An angular distribution is negative
acer...monte carlo neutron and photon data (36): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 66 e= 3.000E+07
38. An angular distribution is negative
acer...monte carlo neutron and photon data (37): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 67 e= 2.600E+07
39. An angular distribution is negative
acer...monte carlo neutron and photon data (38): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
1 for mt= 67 e= 2.800E+07
40. An angular distribution is negative
acer...monte carlo neutron and photon data (39): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
2 for mt= 67 e= 3.000E+07
41. An angular distribution is negative
acer...monte carlo neutron and photon data (40): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
28 for mt= 69 e= 3.000E+07
42. An angular distribution is negative
acer...monte carlo neutron and photon data (41): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
26 for mt= 70 e= 3.000E+07
43. An angular distribution is negative
acer...monte carlo neutron and photon data (42): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
24 for mt= 71 e= 3.000E+07
44. An angular distribution is negative
acer...monte carlo neutron and photon data (43): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
22 for mt= 72 e= 3.000E+07
45. An angular distribution is negative
acer...monte carlo neutron and photon data (44): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
22 for mt= 73 e= 3.000E+07

46. An angular distribution is negative
acer...monte carlo neutron and photon data (45): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
 20 for mt= 74 e= 3.000E+07
47. An angular distribution is negative
acer...monte carlo neutron and photon data (46): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
 19 for mt= 75 e= 3.000E+07
48. An angular distribution is negative
acer...monte carlo neutron and photon data (47): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
 18 for mt= 76 e= 3.000E+07
49. An angular distribution is negative
acer...monte carlo neutron and photon data (48): Neg. $P(Ej\mu)$ (b)
- message from ptleg2---negative probs found
 17 for mt= 77 e= 3.000E+07